

Background Information and Technical Support Document for

310 CMR 7.71

“Mandatory Reporting of Greenhouse Gas Emissions to a Regional Registry”

Regulatory Authority:

M.G.L. c. 111, Sections 142A through 142E

December 29, 2008

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I. INTRODUCTION

Overwhelming scientific evidence suggests that a changing climate poses a serious threat to environmental resources as well as the public health because it threatens the region's air quality, water quality, marine and freshwater fisheries, salt and freshwater wetlands, surface and subsurface drinking water supplies; river and stream impoundment infrastructure; forest species and wildlife habitats.¹

Chapter 298 of the Acts of 2008, the Massachusetts Global Warming Solutions Act (GWSA), was passed by the legislature and signed into law by Governor Patrick in August 2008 to begin to address the challenges of climate change. The Climate Protection and Green Economy Act (CPGEA)² is contained within the GWSA and requires the creation of enforceable state limits on GHG emissions for the years 2020, 2030, 2040, and 2050. These limits are designed to address the Commonwealth's contribution to global climate change and to stimulate the green economy in Massachusetts.

One major provision of the Climate Protection and Green Economy Act stated that the Department of Environmental Protection, "shall adopt regulations to require the reporting ... of statewide GHG emissions."³ MassDEP is proposing to adopt 310 CMR 7.71: *Mandatory Reporting of Greenhouse Gas Emissions to a Regional Registry* to comply with the requirements of the CPGEA. The statute explicitly requires that MassDEP promulgate regulations by January 1, 2009⁴, and that these regulations require reporting of greenhouse gas emissions by facilities that: 1) emit in excess of 5000 tons of greenhouse gases in carbon dioxide equivalents⁵ (CO₂e) per year, and 2) report emissions pursuant to Title V of the Clean Air Act. Creation of an accurate inventory of statewide GHG emissions will enable effective planning, implementation and tracking of strategies to address the Commonwealth's contribution to climate change.

II. PROCESS OVERVIEW

On December 29, 2008, 310 CMR 7.71: *Mandatory Reporting of Greenhouse Gas Emissions to a Regional Registry* was promulgated as an emergency regulation under MGL Chapter 30A to meet the statutory deadline of January 1, 2009. A full public process was not possible before promulgation of the emergency regulation; instead, as required by state law, the public process will occur within 90 days of promulgation. This Technical Support Document provides information and justification pertaining to text contained in the emergency regulation.

Several of the requirements of the CPGEA will require significant public input and thus are not incorporated into the emergency regulation. These requirements relate to verification, voluntary reporting, and reporting of emissions by retail sellers of electricity. In order to incorporate these requirements, amendments to 310 CMR 7.71 will be proposed with a separate public process, pursuant to MGL Chapter 30A, occurring during the winter and spring of 2009. This process will provide an additional opportunity to comment upon the entire content of 310 CMR 7.71, including text from this emergency rulemaking.

¹ <http://www.ipcc.ch/>

² The Climate Protection and Green Economy Act (CPGEA) is codified at MGL 21N. It can be found at: <http://www.mass.gov/legis/laws/seslaw08/sl080298.htm>

³ See M.G.L. Chapter 21N, Section 2(a)

⁴ See M.G.L. Chapter 21N, Sections 2, 10, and 11.

III. DESCRIPTION OF 310 CMR 7.71: MASSACHUSETTS MANDATORY REPORTING OF GHG EMISSIONS TO A REGIONAL REGISTRY

Overview

The CPGEA requires MassDEP to “monitor and regulate emissions of GHGs with the goal of reducing those emissions.”³ 310 CMR 7.71: *Mandatory Reporting of Greenhouse Gas Emissions to a Regional Registry* adheres to the language and intentions of the CPGEA. It identifies the types of facilities required to report, requires registration of those facilities by April 15, 2009, and requires the use of The Climate Registry’s General Reporting Protocol calculation methods.

Applicability

MassDEP is proposing mandatory reporting requirements for the following categories of facilities, as directed by the CPGEA:

Title V Facilities (310 CMR 7.00: Appendix C)

Facilities which are subject to 310 CMR 7.00: Appendix C for compliance with the federal Clean Air Act Title V shall report as follows: Appendix C facilities with 5000 tons per year (tpy) or less CO₂e GHG emissions shall report “direct stack emissions” which include emissions from stacks, processes, and vents, and fugitive emissions; Appendix C facilities with more than 5000 tpy CO₂e GHG emissions shall report all “direct emissions”, including those listed above and emissions from motor vehicles, as defined below. A facility which has a restricted emission status but has greater than 5,000 tpy of CO₂e GHG emissions, is required to report under 310 CMR 7.71.

Other Facilities with GHG Emissions > 5000 tpy

Stationary emission facilities which emit more than 5000 tpy of CO₂e GHGs shall report all “direct emissions”, including fugitive emissions and emissions from stacks, processes, vents, and motor vehicles, as defined below. MassDEP is developing a simplified estimation form to aid facilities in determining their applicability status.

Examples of Types of Sources Covered & Examples Generating 5000 tpy CO₂e Emissions

310 CMR 7.71 sources may include, but are not limited to, the following types:

- electric generating units,
- emergency generators,
- industrial, commercial, and institutional boilers,
- wastewater treatment plants,
- municipal waste combustors,
- landfills,
- manufacturers,
- facilities using high global warming potential gases (see implementation section below for list),
- facilities using combined heat and power, and
- facilities burning biomass.

⁵ Carbon dioxide equivalents (CO₂e) means that for gases other than carbon dioxide, the number of tons of emissions is adjusted to account for differing global warming potentials.

This list is not comprehensive and source categories which are not listed here, but trigger the thresholds, are subject to mandatory reporting.

Examples of fuel usage which would emit approximately 5,000 tpy include:

- Combustion of 83,100,000 cubic feet of natural gas
- Combustion of 442,000 gallons of No. 2 fuel oil
- Operation of a 30% efficient natural gas-fired 1.0 MW electric generator run at 85% capacity

Comparison of Definitions in 310 CMR 7.71 and 310 CMR 7.00

The Climate Protection and Green Economy Act provides several definitions which are incorporated into 310 CMR 7.71. These include *facility* and *motor vehicle*, both of which are also contained in the definitions of 310 CMR 7.00. This section of the technical support document compares these definitions. In all cases, the definition in 310 CMR 7.71 supersedes the definition in 310 CMR 7.00 for the purposes of reporting GHG emissions under 310 CMR 7.71.

Facility as defined in 310 CMR 7.71 means a building, structure or installation located on contiguous or adjacent properties of an entity. This definition is taken verbatim from the CPGEA. In the definitions section of 310 CMR 7.00, FACILITY means any installation or establishment and associated equipment, located on the same, adjacent or contiguous property, capable of emissions; and for the purpose of 310 CMR 7.15 (source registration), it means any structure, installation, building, equipment, or ship. MassDEP considers the definitions of “facility” in 310 CMR 7.71 and 310 CMR 7.00 to be synonymous.

Motor vehicle as defined in 310 CMR 7.71 means any equipment or mechanical device propelled primarily on land by power other than muscular power that is primarily designed or intended for operation on public roadways. *Motor vehicle* is also defined in 310 CMR 7.00, but this definition has aspects that are not relevant for the purposes of reporting GHG emissions under 310 CMR 7.71. The definition of motor vehicle in 310 CMR 7.71 may be revised in the more comprehensive mandatory reporting regulation to be proposed in the Spring of 2009.

Registration

Registration is a one-time requirement and will not be part of the ongoing reporting program.

Facilities meeting the applicability standards described above due to the combustion of fossil fuels **in 2008** are required to register with MassDEP by April 15, 2009. MassDEP will provide a form early in 2009 for facilities to complete registration. Only facilities that emitted in excess of 5,000 tons of carbon dioxide from fossil fuel combustion, and facilities that report emissions pursuant to 310 CMR 7.00: Appendix C and combusted any amount of fossil fuels are required to register.

Reporting to the Regional Registry

The CPGEA charged MassDEP to “establish a regional GHG registry and reporting system for GHG emission sources; provided, however, that in establishing the GHG registry and reporting system, the department may collaborate with other states or a regional consortium.”⁶ Massachusetts participated in the development of the Eastern Climate Registry (ECR) and The Climate Registry (TCR). TCR is a multistate organization that has devised a common standard for reporting GHG emissions and which evolved from a

⁶ See M.G.L. Chapter 21N, Section 2(a)(1)

collaboration between the ECR and the California Climate Action Registry. MassDEP is considering The Climate Registry and other regional registries for its mandatory GHG reporting rule, and is accepting comments and suggestions on the use of specific registries.

Benefits of Mandatory Reporting of GHG Emissions to a Regional Registry

Massachusetts has a history of requiring emissions reporting as a tool to reduce those emissions. One example is the Toxics Use Reduction Act (TURA), which requires companies to track and report their use and disposal of toxic substances. This tracking and reporting contributed to the reduced use of toxics, resulting in financial savings for the companies and improved safety for employees, the public, and the environment. Similar results for reducing air pollution have been seen in reporting programs for air pollutants, including reporting based on a pollutant per energy output (tons/MegaWatt-hour).

MassDEP believes that implementing 310 CMR 7.71: *Mandatory Reporting of GHG Emissions to a Regional Registry* will provide the following benefits to Massachusetts and its sources:

- Establish a GHG emissions inventory for future climate strategies planning
- Establish an emissions baseline and document early action by sources
- Encourage energy efficiency by documenting fuel use at applicable facilities
- Provide information to stakeholders on GHG emissions across the Commonwealth
- Promote readiness for possible new federal reporting regulations
- Reduce the long-term costs of addressing climate change

Implementation Schedule

Registration based on 2008 emissions from fossil fuel combustion is required by April 15, 2009, as described above. Facilities are required to report CO₂ emissions from calendar year 2009 by April 15, 2010. Reporting of 2009 emissions of gases other than CO₂ is not required. For 2010 emissions and beyond, reporting will be required for emissions of CO₂ and other GHGs by April 15 of the following year. The GHGs required to be reported are: carbon dioxide, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

			FACILITIES REQUIRED TO REPORT	
Emissions Year	Gases	Reporting Deadline	Appendix C (Title V)	> 5000 tpy GHGs
2009	CO ₂	April 15, 2010	Yes	Yes
2010 and beyond	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆	April 15, 2011	Yes	Yes

Reporting Methodology

- Reporting will be performed on a facility-wide basis for each entity, not for individual units or stacks at a facility.
- Reporting will be performed electronically. MassDEP is developing guidance to explain this process.

The Climate Registry's General Reporting Protocol

TCR has developed technical guidelines for quantifying and reporting greenhouse gas emissions, termed the General Reporting Protocol Version 1.1, which MassDEP intends to employ to guide how GHG emissions are to be calculated and reported. MassDEP was a founding member of TCR because we support its goals of: 1) using best practices for credible and consistent GHG emissions reporting, 2) providing an opportunity for reporters to establish an emissions baseline and document early action, and 3) promoting full public disclosure of GHG emissions. These criteria are important for establishing consistent national climate policies. MassDEP is using TCR's General Reporting Protocol because it is a generally accepted means among government agencies and facilities of calculating GHG emissions. The Western Climate Initiative, a consortium of seven western states and four Canadian provinces, has signaled its intent to use TCR and its protocols, and the US Environmental Protection Agency has a specific mandate to consider TCR's system in developing a reporting federal system. Thus, TCR's General Reporting Protocol provides a consistent means of calculating GHG emissions in North America.

The General Reporting Protocol is available at: <http://www.theclimateregistry.org/downloads/GRP.pdf>. Chapter 12 describes how to calculate direct emissions from stationary sources and can be used to determine applicability of this regulation instead of, or in addition to, the MassDEP simplified estimation method currently under development.

Reporting in Accordance with the General Reporting Protocol

MassDEP is requiring reporting in accordance with TCR's General Reporting Protocol, version 1.1. However, some of the provisions in the General Reporting Protocol do not apply to mandatory GHG reporting under 310 CMR 7.71. These exceptions to the use of TCR's General Reporting Protocol include: 1) definitions of the organizational boundaries of the reporter, and 2) the scope of reported emissions. The Massachusetts regulation will require the reporting of emissions from facilities located within the Commonwealth. TCR, in contrast, requires the reporting of GHG emissions on an "entity-wide" basis, which consists of all facilities owned by a corporation, or for all North American facilities. Similarly, 310 CMR 7.71 requires only the reporting of direct emissions, whereas TCR requires the reporting of direct and indirect (purchased electricity) emissions. Other exceptions to MassDEP's use of TCR's General Reporting Protocol include the phase-in of GHG with reporting of CO₂ only in 2009 and differing deadlines for reporting. MassDEP will provide additional guidance to explain how to use the General Reporting Protocol to comply with 310 CMR 7.71.

Reported Data Tiers

TCR's General Reporting Protocol defines several tiers of data quality. At this time, MassDEP does not require the use of a specific data tier for reporting, however it encourages the reporting of the most accurate data available. MassDEP expects facilities to make their best effort to use the most accurate tier they can.

IV. IMPACTS AND PUBLIC PARTICIPATION

Economic Impacts

MassDEP expects that 310 CMR 7.71 will not cause significant hardship to facilities required to report, although it does expect an increase in the general cost of reporting. This is because of the need to gather additional data, the time to become familiar with the General Reporting Protocol, and the requirement to report to a regional registry (rather than to an existing reporting system). MassDEP expects that with time, these reporting costs will turn into an opportunity for Massachusetts businesses to decrease their operating

costs by enhancing energy efficiency efforts and by creating an emissions baseline which potentially could be used in the future to create offsets or to qualify for early reduction credits.

Agricultural Impacts

Pursuant to Massachusetts General Laws, Chapter 30A, Section 18, state agencies must evaluate the impact of proposed programs on agriculture within the Commonwealth. 310 CMR 7.71 requires facilities emitting >5000 tons/year of CO₂e GHGs to report their emissions; some agricultural facilities may meet this applicability standard. However, MassDEP expects that 310 CMR 7.71 will not cause significant hardship to agricultural facilities which are required to report. It expects a cost associated with reporting because of the need to gather data and the time to become familiar with the General Reporting Protocol. One advantage for agricultural facilities reporting under 310 CMR 7.71 may be the establishment of an emissions baseline which potentially could be used in the future to qualify for early reduction credits. Additionally, climate change is expected to cause a number of negative impacts on agricultural production. Therefore, any mitigation of these impacts that results from the implementation of these regulations would benefit the agricultural sector in Massachusetts.

Impact on Massachusetts Municipalities

MassDEP expects that 310 CMR 7.71 will not cause significant hardship to facilities required to report, including Massachusetts municipal facilities such as municipal light and power companies. It expects a cost associated with reporting because of the need to gather data, the time to become familiar with the General Reporting Protocol, and the requirement to report to a regional registry (rather than to an existing reporting system). MassDEP believes that any Massachusetts municipalities subject to 310 CMR 7.71 are already reporting under source registration (310 CMR 7.12) and therefore the additional burden from 310 CMR 7.71 is small. MassDEP expects that with time, these reporting costs will turn into an opportunity for Massachusetts municipalities to decrease their operating costs by enhancing energy efficiency efforts and by creating an emissions baseline which potentially could be used in the future to create early reduction credits.

Massachusetts Environmental Policy Act

These proposed regulations are “categorically exempt” from the “Regulations Governing the Preparation of Environmental Impact Reports,” 301 CMR 11.00, because this regulation, will not result in increased levels of emissions. Indeed, the GWSA, which mandated the promulgation of 310 CMR 7.71, calls for the establishment of enforceable state limits on GHG emissions. All reasonable measures have been taken to minimize adverse impacts.

Impacts on Other Programs – Air Toxics

Air toxics are a group of chemical air contaminants that are associated with significant environmental impacts or adverse health effects such as cancer, reproductive effects and birth defects. The federal Clean Air Act requires EPA to promulgate source-specific controls based on Maximum Achievable Control Technologies (MACT) for air toxics. MassDEP implements MACT standards as EPA promulgates them. In addition, MassDEP controls air toxics through reductions of criteria pollutants and through its Toxics Use Reduction Program. Toxics use reduction is a MassDEP priority. Toxics use reduction is defined as in-plant practices that reduce or eliminate the total mass of contaminants discharged to the environment. The proposed regulation will promote toxics use reduction by promoting fuel and energy efficiency at existing electric generating units and other facilities.

Request for Comments

MassDEP solicits comments on any of the provisions set forth in 310 CMR 7.71. Further opportunity to comment on the full content of this regulation will occur during the spring of 2009. At that time, hearings will be held in accordance with the procedures of MGL Chapter 30A for proposed amendments to 310 CMR 7.71.

Public Participation

310 CMR 7.71: *Mandatory Reporting of Greenhouse Gas Emissions to a Regional Registry* was promulgated as an emergency regulation. Therefore, a full public process was not possible before promulgation; instead, as required by state law, the public process is occurring after promulgation. MassDEP now gives notice and is providing the opportunity to review 310 CMR 7.71: *Mandatory Reporting of Greenhouse Gas Emissions to a Regional*, the background document, and any technical information. Formal notice will be issued 30 days before the public hearings.

Further opportunity to comment on the full content of this regulation will occur during the spring of 2009. At that time, hearings will be held in accordance with the procedures of MGL Chapter 30A for proposed amendments to 310 CMR 7.71.

A copy of 310 CMR 7.71 and this background document are available on MassDEP's website at: <http://www.mass.gov/dep/>. Copies can also be obtained at MassDEP's headquarters at One Winter Street, Boston.

Please send comments to: climate.strategies@state.ma.us

If there are any questions regarding this document, please contact William Space at:

MassDEP
Bureau of Waste Prevention
1 Winter Street
Boston, MA 02108
617-292-5610

Appendix: Public Hearing Notice

DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WASTE PREVENTION

N O T I C E

Notice is hereby given that the Department of Environmental Protection, in accordance with the provisions of M.G.L. c 111, Sections 142A through 142N will hold a public hearing on the promulgation of 310 CMR 7.71.

Chapter 298 of the Acts of 2008, the Massachusetts Global Warming Solutions Act (GWSA), was passed by the legislature and signed into law by Governor Patrick in August 2008 to begin to address the challenges of climate change. The Climate Protection and Green Economy Act is contained within the GWSA and requires MassDEP to promulgate mandatory greenhouse gas reporting regulations by January 1, 2009. In order to meet that deadline, MassDEP issued an emergency regulation on December 29, 2008.

The purpose of this regulation is to require the reporting and verification of statewide greenhouse gas emissions and to monitor and ensure compliance with the reporting provisions of the Climate Protection and Green Economy Act of 2008.

The Commonwealth is committed to being a leader in the global effort to reduce emissions of the greenhouse gases that cause global warming. These mandatory greenhouse gas reporting regulations are part of that commitment and will set in motion a process that will eventually reduce greenhouse gas emissions by 10 – 25% by 2020 and 80% by 2050.

A public hearing will be conducted under the provisions of M.G.L. Chapter 30A on:

Wednesday, February 11, 2009 at 1:30 PM
Massachusetts Department of Environmental Protection
One Winter Street
Boston, Massachusetts

Testimony may be presented orally or in writing at the public hearing. Written comments also will be accepted until 5:00 PM on February 23, 2009. Written testimony must be submitted by e-mail or mail to:

climate.strategies@state.ma.us

Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street, 8th Floor
Boston, MA 02108
Attn: Stacy DeGabriele

A copy of the proposed regulations and background information is available on MassDEP's web site at www.mass.gov/dep/public/publiche.htm. Copies also may be obtained by calling Stacy DeGabriele at 617-292-5864.

For special accommodations for these events or hearing information in an alternate format, please contact Donald Gomes, MassDEP's ADA Coordinator at 617-556-1057, BAS/HR, 3rd Floor, One Winter Street, Boston, MA 02108.

By Order of the Department
Laurie Burt
Commissioner